NPDES PERMIT NO. NM0028886
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT:	Sacramento Methodist Assembly Post Office Box 8 Sacramento, NM 88347
ISSUING OFFICE:	U.S. Environmental Protection Agency Region 6 1445 Ross Avenue Dallas, Texas 75202-2733
PREPARED BY:	Rudy Molina Environmental Scientist NPDES Permits Branch (6WQ-PP) Water Quality Protection Division Voice: 214-665-6731 Fax: 214-665-2191 Email: molina.rudy@epa.gov
PERMIT ACTION:	Proposed reissuance of the current permit issued September 14, 2001, with an effective date of October 1, 2001, and an expiration date of October 31, 2006.
DATE PREPARED:	August 1, 2006
PAGES:	11 (TEXT) 0 (APPENDICES/SPREAD SHEET)

40CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of January 4, 2006.

CERTIFICATION: The permit is in the process of certification by the State agency following regulations promulgated at 40CFR124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service; and to the National Marine Fisheries Service prior to the publication of that notice.

FINAL DETERMINATION: The public notice describes the procedures for the formulation of final determinations.

I. PROPOSED CHANGES FROM PREVIOUS PERMIT

There are changes from the current permit issued September 14, 2001, with an effective date of October 1, 2001, and an expiration date of October 1, 2006:

1. Effluent limitations and monitoring requirements for *E. coli* have been added. [Outfall 001]

2. Effluent limitations and monitoring requirements for fecal coliform bacteria will be eliminated from the draft permit when the State Water Quality Standards, that incorporate *E. coli* instead of fecal coliform bacteria, are approved by EPA. [Outfall 001]

3. Effluent monitoring and reporting requirements for whole effluent toxicity (WET) testing have been added. [Outfall 001]

4. The Total 30-day average loadings for BOD and TSS are based on the design flow of 0.042 MGD. 30 mg/l * 8.34 lb/gal * 0.042 MGD = 10.5 lbs/day. This is a change from the previous permit limit of 11 lbs/day.

5. Regulations promulgated at 40CFR122.45 (f) *Mass limitations.* (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass. A limit for 7-day avg. has been added from the previous permit.

The specific effluent limitations and/or conditions will be found in the draft permit.

II. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code(s) 4952, the applicant's activities are domestic wastewater treatment operations. The treatment process is a complete-mix, extended aeration package plant with chlorination/dechlorination capability with a 0.042 MGD design flow capacity.

III. SEWAGE SLUDGE PRACTICES

The sludge produced at the treatment plant is removed as needed by a private septage hauler for off-site disposal.

IV. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The applicant facility does not receive industrial wastewater.

V. DISCHARGE LOCATION

As described in the application, the plant site is located in Otero County, New Mexico. The effluent from the treatment plant is discharged into an unnamed intermittent stream thence to Agua Chiquita Creek thence to Rio Penasco thence to the Pecos River in Waterbody Segment Code No. 20.6.4.208 of the Pecos River Basin.

The discharge is located on that water at the following coordinates

Latitude: 32° 47' 30" N, Longitude: 105° 33' 30" W

The known uses of the receiving water(s) are fish culture, irrigation, livestock watering, wildlife habitat, coldwater aquatic life and secondary contact.

VI. STREAM STANDARDS

The general and specific stream standards are provided in "New Mexico State Standards for Interstate and Intrastate Surface Waters," (20.6.4 NMAC, as amended through February 16, 2006).

VII. DISCHARGE DESCRIPTION

A quantitative description of the discharges reported in the Discharge Monitoring Reports (DMRs) dated January 2004 to December 2005, is presented below:

Parameter	Avg. (mg/l unless noted)	max
Flow, million gallons/day (MGD)	0.0008	0.003
pH, minimum, standard units (su)	NA	7.8
pH, maximum, standard units (su)	NA	8.26
Biochemical Oxygen Demand, 5-day (BOD_5)	4.77	9.0
Fecal Coliform (FCB) (colonies/100 ml)	10	25
Total Suspended Solids (TSS)	6.52	15.5
Total Residual Chlorine (TRC)	.0514	.09
Temperature (°C) (winter)	NA	NA
Temperature (°C) (summer)	NA	NA

VIII. TENTATIVE DETERMINATION AND PERMIT DURATION

On the basis of preliminary staff review and after consultation with the State of New Mexico, the Environmental Protection Agency has made a tentative determination to reissue a permit for the discharge described in the application.

IX. DRAFT PERMIT RATIONALE

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under 40CFR122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. REASON FOR PERMIT REISSUANCE (EXPIRING PERMIT)

The current permit was issued September 14, 2001, with an effective date of October 1, 2001, and an expiration date of October 31, 2006. The permit renewal application was dated March 1, 2006.

B. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at 40CFR122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40CFR122.44(a), on State water quality standards and requirements pursuant to 40CFR122.44(d), or on the results of an established and EPA approved Total Maximum Daily Load (TMDL), whichever are more stringent.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations promulgated at 40CFR122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two.

The BPJ-based effluent limitations are equivalent to secondary treatment for domestic sewage based on regulations found at 40 CFR 133.102.

2. EFFLUENT LIMITATIONS

	Lbs/day	Lbs/day	Other Units (specify)	
Parameter	30-day Avg.	7-Day Avg.	30-day Avg.	7-Day Avg.
Flow	N/A	N/A	Report (MGD)	Report (MGD)
BOD_5	10.5	15.8	30 mg/l	45 mg/l
TSS	10.5	15.8	30 mg/l	45 mg/l
Ph	N/A	N/A	6.0 – 9.0 SU	

Total 30-day average loadings for BOD and TSS are based on the design flow of 0.042 MGD.

30 mg/l * 8.34 lb/gal * 0.042 MGD = 10.5 lbs/day

45 mg/l * 8.34 lb/gal * 0.042 MGD = 15.8 lbs/day

3. MONITORING FREQUENCIES FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR 122.48(b) and to assure compliance with permit limitations contained in 40 CFR 122.44(i) (1). For both interim and final limits, the monitoring frequency is proposed to be the same frequency as the previous permit.

PARAMETERS	MONITORING REQUIREMENTS	
	FREQUENCY OF SAMPLE	REPORTING TYPE
Flow	Five/Week	Instantaneous
BOD_5-day	Once/Month	Grab
TSS	Once/Month	Grab

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Effluent limitations and/or conditions established in the draft permit are in compliance with State water quality standards and the applicable water quality management plan.

2. WATER QUALITY-BASED LIMITS

The New Mexico Water Quality Control Commission adopted new Water Quality Standards on April 12, 2005. Those revised standards, as amended, are available on the NMED's website at http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0004.pdf . Those revised standards have not been approved by EPA at this time.

Issues regarding implementation of new Water Quality Standards in NPDES permit prior to EPA approval was decided in the "Alaska Rule" [Alaska Clean Water Alliance v. Clark, No. C96-1762R (W.D. Wash.)]. That rule prohibits EPA from implementing Water Quality Standards until they are approved by EPA pursuant to section 303 of the Clean Water Act. EPA's Headquarters further clarified the role of State certification prior to approval of standards in a memorandum from Geoffrey H. Grubbs, Director Office of Science and Technology, dated September 15, 2000. That memorandum states that if a State or tribe bases a section 401 certification on more stringent state requirements, as allowed under CWA section 401(d), EPA will include the effluent limitations specified in the certification in an NPDES permit.

State WQS listed in 20.6.4.208 NMAC for *E. coli* bacteria, require the monthly geometric mean to be 126 colony forming units (cfu)/100 ml or less; single sample 410 cfu/100 ml or less. In a letter from Marcy Leavitt (NMED) to Willie Lane (EPA) dated August 10, 2006, NMED provided such certification relative to the revised standards. The State certified that the permit will comply with applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law upon inclusion of conditions required by the revised standards. Based on this certification letter, EPA has included the limitations and monitoring requirements for *E. coli* as required by the revised New Mexico Water Quality Standards, amended through February, 16, 2006. However, EPA retained the limitations (30-Day Avg. of 200 cfu/ 100 ml and Daily Max of 400 cfu/ 100 ml) and monitoring requirements for fecal coliform bacteria in the proposed permit because the criteria are included in the current EPA approved New Mexico Water Quality Standards (NM WQS). The limits are also consistent with the limitations set forth in the State of New Mexico Water Quality Management Plan. As proposed, the permit would require continued monitoring for both Fecal Coliform and *E. coli* bacteria until Fecal Coliform is replaced with *E. coli* in the Water Quality Management Plan. Monitoring and reporting of *E. coli* will begin at the effective date of the proposed permit. The permittee shall achieve compliance with final *E. coli* limits within six (6) months from the effective date of the permit.

The pH range of 6.6-8.8 standard units for Segment 20.6.4.208 of the Pecos River Basin established by the current New Mexico Water Quality Standards (NM WQS) is more stringent than the pH range of 6.0-9.0 standard units specified by technology-based effluent limitations. Therefore, 6.6-8.8 standard units shall be the effluent limitation for this facility.

Floatables are prohibited from discharge through this outfall.

The effluent shall contain NO MEASURABLE total residual chlorine (TRC) at any time. NO MEASURABLE will be defined as no detectable concentration of TRC as determined by any approved method established in 40CFR136. If during the term of this permit the practical quantification limit for TRC becomes less than 11 µg/L, then 11 µg/L shall become the effluent limitation. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. The maximum TRC shall be monitored five days per week by grab samples.

3. REASONABLE POTENTIAL

All POTW's are required to fill out appropriate sections of the Form 2A, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to Publicly Owned Treatment Works (POTW's) and to facilities that are similar to POTW's, but is also applicable to these facilities that do not meet the regulatory definition of "publicly owned treatment works" (like private domestics, or similar facilities on Federal property). These forms were designed and promulgated to "make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities," per the summary statement in the preamble to the Rule. These forms

became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The amount of information required for minor facilities was limited to specific sections of these forms, because it was found that they are unlikely to discharge toxic pollutants in amounts that would impact state water quality standards. Supporting information for this decision was published as "Evaluation of the Presence of Priority Pollutants in the Discharges of Minor POTW's," June 1996, and was sent to all state NPDES coordinators by EPA Headquarters. In this study, EPA collected and evaluated data on the types and quantities of toxic pollutants discharged by minor POTW's of varying sizes from less than 0.1 MGD to just under 1 MGD. The Study consisted of a query of the EPA Permit Compliance System (PCS) database from 1990 to present, an evaluation of minor POTW data provided by the State agencies, and on-site monitoring for selected toxics at 86 minor facilities across the nation.

PCS and the study showed that minor POTW's below 0.1 MGD comprise 40 % of all POTW's that serve very small communities and contribute a small amount of flow, generally with no industrial users. Of the facilities sampled in the study, which discharged one of the priority pollutants screened, all tested near or lower than the most stringent national water quality criterion. The most commonly detected pollutants were total phenolics (at 100% of facilities), zinc (at 92% of facilities), copper (at 64% of facilities), and lead (at 32.6% of facilities), with other pollutants detected at less than 10% of the study facilities, and with beryllium, mercury, and cyanide not detected at any of the facilities. Comparison of the effluent pollutant concentration data directly to water quality criteria did not take into account dilution, and did not consider other site specific factors such as hardness, temperature, turbidity, salinity, etc. This was considered an overly conservative approach by the study, but used as such to illustrate the extremely low reasonable probability these facilities had to violate state water quality standards. Due to the information supplied in the application, the Agency has determined that no reasonable potential exists for this discharge to violate applicable NM WQS, beyond pH and E. coli.

4. MONITORING FREQUENCY

The monitoring frequency for fecal coliform, BOD_5, TSS, and pH will be maintained from the previous permit at once per month. *E. coli* will also be monitored once per month; this frequency is consistent with the previous permit's monitoring frequency for fecal coliform.

5. AQUATIC TOXICITY TESTING

The State has established narrative criteria which, in part, state that

> "...surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to

> bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms....” (NM WQS Section 20.6.4.13.F.)

In consideration of the information in the permit application and information characterizing domestic treatment plants in general, EPA has determined that there are no pollutants in the effluent(s) in amounts which have the reasonable potential to cause, or contribute to, an instream excursion above the numeric criterion within the applicable State water quality standards. Nevertheless, the toxicity testing will evaluate the toxicity of pollutants for which water quality standards have not been established, and determine the additive or synergistic toxicity caused by the discharge of multiple pollutants. The EPA has determined the receiving stream is intermittent. Therefore, the critical dilution is determined to be 100%. Whole effluent toxicity (WET) testing requirements are established based on the Narrative Toxics Implementation Guidance - Whole Effluent Toxicity, State of New Mexico (December 16, 2005). The permittee is required to conduct a toxicity test once during the life of the permit.

In a letter from Marcy Leavitt, NMED, to Claudia Hosch, EPA, December 16, 2005, NMED provided Narrative Toxics Implementation Guidance – Whole Effluent Toxicity, (NTIG-WET), an update to the 1995 Implementation Guidance. Since the designated use of stream segment 20.6.4.208 has aquatic life, and the critical dilution is greater than 10%, the NTIG-WET plan requires a chronic 7-day biomonitoring test, using the species Ceriodaphnia dubia and Pimephales promelas. The permittee shall conduct separate whole effluent toxicity tests in accordance with the following table:

TOXICITY TESTS	FREQUENCY
7-day Ceriodaphnia dubia survival and reproduction test (Method 1002.0)	Once/permit term
7-day fathead minnow Pimephales promelas larval survival and growth test (Method 1000.0)	Once/permit term

Chronic Freshwater Whole Effluent Toxicity Testing

The sample for the WET test for Outfall 001 shall be taken during the period November 1 through April 30. The permittee shall submit the results of any toxicity testing performed in accordance with the Part II of the Permit.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the appropriate test method publication. The full reports required by each test section need not be submitted unless requested. However, the full report is to be retained following the provisions of [40 CFR Part 122.41 (j) (2)]. The permit requires the submission of the toxicity testing information to be included on the DMR.

A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 32%, 42%, 56%, 75%, and 100%. The low-flow effluent concentration (critical dilution) is defined as 100% effluent determined above.

6. IMPAIRED WATER - 303(d) LIST AND TMDL

The reach (Agua Chiquita perennial portions Rio Peñasco to headwaters) into which the Sacramento Methodist Assembly discharges to the Pecos River Basin is included in the "2004-2006 State of New Mexico Integrated Clean Water Act Section 303 (d) / 305 (b) Report." The report indicates designated use attainment has not been assessed at this time. Therefore, no additional conditions are included in the draft permit to address impairments.

7. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

8. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40CFR122.44(l)(2)(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance.

X. ENDANGERED SPECIES

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://ifw2es.fws.gov/EndangeredSpecies/lists/, ten species in Otero County are listed as Endangered or Threatened. Five of the species are avian and include the Bald eagle, Mexican spotted owl, least tern, Southwestern willow flycatcher, and Northern Aplomado falcon. Four of the species are flowering plants and include Kuenzler hedgehog cactus, Sacramento Mountains thistle, Sacramento prickly poppy, and Todsen's pennyroyal. The Black-footed ferret is the only mammal listed as threatened or endangered. Based on the following discussion, EPA has determined that the reissuance of this permit will have *no effect* on these federally listed threatened or endangered species.

Research of the Black-footed Ferret finds that the species has diminished, due to the eradication of the prairie dog, the primary food source and provider of shelter (burrows) for the ferret. Issuance of this permit should have no effect on the food source or habitat of the prairie dog or the ferret, nor is it associated with predator control programs.

Research of available material finds that the primary cause for the population decreases leading to threatened or endangered status for three of the avian species, the Mexican spotted owl, least tern, and Southwestern willow flycatcher, is destruction of habitat. Issuance of this permit is found to have no impact on the habitat of the listed species, since no construction is authorized by this permitting action.

No pollutants are identified by the permittee-submitted application at levels which might affect species habitat or prey species. Catastrophic fires and elimination of riparian habitat also were identified as threats to species habitat, particularly that of the Mexican spotted owl, Bald eagle, and Southwestern willow flycatcher. The National Pollution Discharge Elimination System (NPDES) program regulates discharge of pollutants and does not regulate forest management practices and agricultural practices, which contribute to catastrophic fires and elimination of riparian habitat, and thus, species habitat. Issuance of this permit is found to have no impact on the habitats of these species.

Along with habitat destruction, organochlorines have been indicated as a cause of population decreases in the Bald Eagle and the Northern Aplomado falcon. Issuance of the permit will have no effect on this species, in that the discharge is not expected to contain detectable levels of these chemicals. The effluent from the treatment plant, with no significant industrial users, is treated sanitary wastewater, which does not generally contain detectable amounts of these parameters.

The Todsen's pennyroyal habitat is on steep, north-facing slopes of loose, gravelly gypseous-limestone. Habitat damage from changes in land use, low genetic diversity, and natural threats, such as drought, are thought to be threats to this species. The reissuance of this permit will have no adverse affect on the Todsen's pennyroyal perennial herb.

XI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. PERMIT(S)

NPDES Permit No. NM0028886 issued September 14, 2001, with an effective date of October 1, 2001, and an expiration date of October 31, 2006

B. APPLICATION(S)

EPA Application Form 3510-2E dated March 1, 2006

C. STATE WATER QUALITY REFERENCES

1. STATE ADMINISTRATIVE CODE

The general and specific stream standards are provided in "State of New Mexico Standards for Interstate and Intrastate Surface Water," (20.6.4NMAC, as amended through February 16, 2006).

2. WATER QUALITY STANDARDS IMPLEMENTATION

Region 6 Implementation Guidance for State of New Mexico Standards for Interstate and Intrastate Stream, May 5, 1995

3. MISCELLANEOUS REFERENCES

i. Narrative Toxics Implementation Guidance-Whole Effluent Toxicity, State of New Mexico (December 16, 2005)

ii. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

iii. Correspondence

Certification letter from Marcy Leavitt (NMED) to Willie Lane (EPA) dated August 10, 2006